slope of Brian Head; and Cedar Canyon, 10 miles from canyon mouth. These specimens were all examined carefully and comparisons were made with unmistakable specimens of *Pupilla syngenes dextroversa* Pilsbry and Vanatta from Grand Canyon, Arizona. After a careful study it has been concluded that the Utah specimens are all referable to *P. blandi*. *Pupilla syngenes dextroversa* probably does not exist in this part of Utah.

The seventeen species and subspecies found at Cedar Breaks are:

Pisidium sp.[1]
Oreohelix strigosa depressa Cockerell.
Microphysula ingersolli meridionalis Pilsbry and Ferriss
Vallonia gracilicosta Reinhardt.
Vallonia cyclophorella Ancey.
Pupilla blandi Morse.
Pupilla hebes Ancey.
Vertigo gouldii arizonensis Pilsbry and Vanatta.
Discus cronkhitei cronkhitei Newcomb.
Vitrina alaskana Dall.
Zonitoides arborea Say.
Retinella electrina Gould.
Euconulus fulvus alaskensis Pilsbry.
Succinea avara Say.
Stagnicola bulimoides techella Haldeman.
Stagnicola bulimoides cassi Baker.
Stagnicola caperata Say.

FLUMINICOLA AVERNALIS AND *FLUMINICOLA AVERNALIS CARINIFERA* FROM NEVADA

By WENDELL O. GREGG

The material from which *Fluminicola avernalis* Pilsbry and *Fluminicola avernalis carinifera* Pilsbry were described bore only the indefinite locality "Colorado Desert." Dr. Pilsbry[1] assumed that this referred to the Colorado Desert in the usually restricted sense and gave the type locality as "Colorado Desert,

[1] The *Pisidium* has been turned over to Dr. Stanley Brooks for determination.

[1] Pilsbry, H. A., NAUTILUS, 48: 90, 1935.

California." Junius Henderson[2] later listed the above two with species from this region. We now restrict the term Colorado Desert to that desert region in California which lies to the west of the Colorado River and also the low lying areas which drain into the Salton Sink. "The northern limit of the Colorado Desert may be arbitrarily placed as far north as a line drawn from the Morongo Pass easterly to the Colorado River."[3]

It is suggested by Morrison[4] that *Tryonia clathrata* Stimpson is probably restricted to Nevada, and I know of no records which would definitely place it in California. On the basis of association with *Tryonia clathrata*, Morrison assumes that *Fluminicola avernalis* Pilsbry and *Fluminicola avernalis carinifera* Pilsbry are also from the Pahranagat Valley, Nevada, and not from the Colorado Desert in the restricted sense.

A discovery which I made in November, 1934, while acting as camp surgeon at a CCC camp near the Home Ranch, about six miles west of Moapa, Nevada, gives us one definite locality record for these two forms. At this camp site there are five or six warm springs, all within a distance of about 75 yards. The streams from these springs converge to form a brook which is tributary to the Muddy River. The temperature of the water at these springs varied from 87.5 to 89.5. The elevation was 1700 feet. The vegetation was typical of the lower desert flora. There were quite a few native palms (*Washingtonia*) along the brooklets with ash, screw-pod mesquite and white cottonwood. Having been told of the springs, my first thought was to look for mollusks, and I was not disappointed. The following five species were found: *Amnicola longinqua* Gould, *Tryonia protea* Gould, *Tryonia clathrata* Stimpson, *Fluminicola avernalis* Pilsbry and *Fluminicola avernalis carinifera* Pilsbry.

On some of the older maps the Home Ranch is designated as "Muddy Spring." It is about 50 miles south of the Pahranagat Valley.

I am indebted to Dr. Pilsbry for identifying the specimens of *Fluminicola* and *Tryonia clathrata*.

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[2] Henderson, Junius, NAUTILUS, 50: 41, 1936.

[3] Jaeger, Edmund C., The California Deserts, p. 3.

[4] Morrison, J. P. E., NAUTILUS, 53: 124, 1940.